

REMARKS

Reconsideration of the above-captioned patent application is respectfully requested in view of the foregoing amendments and the following remarks.

By the forgoing amendments, new claims 17-20 have been added. Thus, claims 1-20 currently are pending in the above-captioned patent application and are subject to examination. Moreover, the title of the invention has been amended, and Figure 7 has been amended to include the phrase "Prior Art."

In the Office Action mailed December 29, 2003, the Examiner objected to the title of the invention as being non-descriptive. The title of the invention has been amended responsive to this objection. Therefore, Applicant respectfully requests that the Examiner withdraw the objection to the title of the invention. The Examiner also objected to Figure 7 as failing to include the phrase "Prior Art." Figure 7 has been amended responsive to this objection. Therefore, Applicant respectfully requests that the Examiner withdraw the objection to the drawings.

The Examiner rejected claims 1 and 13 under 35 U.S.C. § 102(b), as being anticipated by U.S. Patent No. 5,287,192 to Iizuka. The Examiner also rejected claims 2-4 and 14-16 under 35 U.S.C. § 103(a), as being unpatentable over Iizuka in view of U.S. Patent No. 6,661,451 to Kijima *et al.* ("Kijima"). Further, the Examiner rejected claims 5-10 under 35 U.S.C. § 103(a), as being unpatentable over Iizuka in view of U.S. Patent No. 6,661,451 to Nakashiba. To

the extent that these rejections remain applicable to the claims, as pending, Applicant hereby traverses these rejections, as follows.

Applicant notes that, as shown in Figures 1 and 2, Iizuka discloses a solid-state imaging system which includes a charge couple device ("CCD") image sensor. The CCD image sensor includes a plurality of photosensors and a plurality of vertical CCD shift registers. Each of the photosensors is coupled to one of the vertical CCD shift registers via a readout gate. The CCD image sensor also includes a horizontal shift register which is coupled to each of the vertical CCD shift registers. In operation, "each photosensor converts incident light energy into a signal charge corresponding to one pixel, and stores the signal charge." Iizuka, Column 2, Lines 47-49. "The signal charge is read out through the readout gate into the corresponding vertical shift register." *Id.* at Lines 49-51. Specifically, "the photogenerated signal charge accumulated in each photosensor is transferred to a predetermined storage site of the [corresponding] vertical shift register and [is] mixed with the signal charge of the neighboring pixel [to form a charge packet]." *Id.* at Column 3, Lines 39-43. "Then, the first charge packet is transferred from each vertical shift register to the horizontal shift register, and the subsequent charge packets are transferred to their respective next storage sites [within the vertical shift register]." *Id.* at Lines 50-54. "After [this] first vertical scan, the imaging system . . . performs the next vertical scan to shift the next signal charge packet to the horizontal shift register." *Id.* at Column 4, Lines 9-13. "Therefore, the first signal charge packet and the second signal charge packet from each vertical shift register are mixed and added up together into a larger signal charge packet in

the horizontal shift register.” *Id.* at Lines 13-18. “Thereafter, the horizontal shift register performs the horizontal scan of one line by shifting a series of the signal charge packets in the horizontal direction, and [an] output section produces the output signal corresponding to the one line.” *Id.* at Lines 19-23. This processes then is repeated for all of the signal charges.

The Examiner alleges that lizuka discloses all of the elements of claims 1 and 13. However, in contrast to the Examiner’s findings with respect to claims 1, Applicant submits that lizuka fails to disclose or suggest at least the combination of features of “horizontal addition means for adding electric charges transferred from two or more [i.e., a plurality], of said vertical charge transfer paths, on said horizontal charge transfer path,” and “controlling said read gates and said vertical charge transfer path to read electric charges from some of said plurality of photoelectric conversion elements to said vertical charge transfer path, transfer the read electric charges on said vertical charge transfer path to the downstream side in the vertical direction, and read electric charges from others of said plurality of photoelectric elements on the downstream side to said vertical charge transfer path.” In contrast, in lizuka’s solid-state imaging system, the electric charges which are added together in the horizontal transfer path all come from the same (i.e., a single), vertical charge path. See, e.g., lizuka, Column 4, Lines 13-18; and Figure 4. Moreover, the first signal charge is added to the neighbor second signal charge without first transferring the first electric charge on the vertical charge transfer path to the downstream side in the vertical direction. See, e.g., lizuka, Column 3, Lines 39-43.

For at least these reasons, Applicant respectfully submits that claim 1 is allowable over the cited art and respectfully requests that the Examiner withdraw the anticipation rejection of independent claim 1.

For similar reasons to those discussed with respect to claim 1, Applicant submits that independent claim 13 is allowable over the cited art.

Claims 2-12 and 14-16 depend from allowable independent claims 1 and 13, respectively. For at least this reason, Applicant submits that claims 2-12 and 14-16 are allowable and respectfully requests that the Examiner also withdraw the rejections of claims 2-12 and 14-16. Moreover, in claims 2-14, the horizontal charge transfer path adds electric charges of the same color, and the combination of Iizuka and Kijima would result in color mixing in the horizontal charge transfer path.

For similar reasons to those discussed with regard to claim 1, Applicant submits that newly added claims 17-20 likewise are allowable.

With regard to each of the rejections under §103 in the Office Action, it is also respectfully submitted that the Examiner has not yet set forth a *prima facie* case of obviousness. The PTO has the burden under §103 to establish a *prima facie* case of obviousness. In re Fine, 5 U.S.P.Q.2nd 1596, 1598 (Fed. Cir. 1988). Both the case law of the Federal Circuit and the PTO itself have made clear that where a modification must be made to the prior art to reject or invalidate a claim under §103, there must be a showing of proper motivation to do so. The mere fact that a prior art reference could arguably be modified to meet the claim is insufficient to establish obviousness. The PTO can satisfy this burden only by

showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. Id. In order to establish obviousness, there must be a suggestion or motivation in the reference to do so. See also In re Gordon, 221 U.S.P.Q. 1125, 1127 (Fed. Cir. 1984) (prior art could not be turned upside down without motivation to do so); In re Rouffet, 149 F.3d 1350 (Fed. Cir. 1998); In re Dembiczak, 175 F.3d 994 (Fed. Cir. 1999); In re Lee, 277 F.3d 1338 (Fed. Cir. 2002).

In the Office Action, the Examiner merely states that the present invention is obvious in light of the cited references. See, e.g., Office Action at page 6. This is an insufficient showing of motivation.

For all of the above reasons, it is respectfully submitted that the claims now pending patentability distinguish the present invention from the cited references. Accordingly, reconsideration and withdrawal of the outstanding rejections and an issuance of a Notice of Allowance are earnestly solicited.

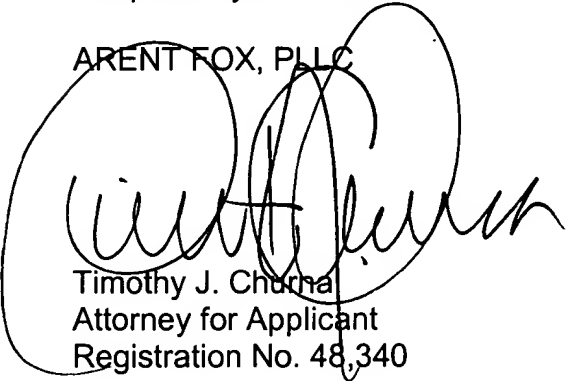
Should the Examiner determine that any further action is necessary to place this application into better form, the Examiner is encouraged to telephone the undersigned representative at the number listed below.

The Applicant is enclosing a check in the amount of \$172 covering the requisite large entity fee for two (2) independent claims in excess of three (3) independent claims. In the event this paper is not considered to be timely filed, the Applicants hereby petition for an appropriate extension of time. The Commissioner is hereby authorized to charge any fee deficiency or credit any overpayment

associated with this communication to the undersigned's Deposit Account No.
01-2300.

Respectfully submitted,

ARENT FOX, PLLC



Timothy J. Chorna
Attorney for Applicant
Registration No. 48,340

Customer No. 004372

1050 Connecticut Ave., N.W.
Suite 400
Washington, D.C. 20036-5339
Telephone No. (202) 715-8434
Facsimile No. (202) 638-4810

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Attachment: Replacement of Fig. 7

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